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Papers and Posters Presented at the April 2004 International Conference on Precision Measurements with Slow Neutrons at the National Institute of Standards and Technology

Preface

This Special Issue of the Journal of Research of the National Institute of Standards and Technology (Parts 1 and 2) contains papers from the International Conference on Precision Measurements with Slow Neutrons held at the National Institute of Standards and Technology in Gaithersburg, MD, April 5–7, 2004. They highlight new results and developments in such topics as neutron electric dipole moment searches, neutron optics and interferometry, Standard Model tests using neutron beta decay, neutron facilities, neutron polarimetry, and nucleon-nucleon interactions.

The meeting was comprised of 3 full days of oral sessions and poster presentations. Approximately 125 people from 10 countries participated in the meeting, which solicited over 120 abstracts. Their numerous contributions can be seen in the following Program listing and in the papers included in this Special Issue. All of the papers that were submitted were found to be appropriate for these conference proceedings by the special issue editors, but we note that not all were given expert review.

A full session on neutron facilities around the world highlighted the increasing number of new sources that are under construction. These facilities demonstrate the growth in the field of fundamental neutron physics and present additional opportunities for experiments requiring large densities of ultracold neutrons, exploiting higher fluences of pulsed cold neutrons, or training future generations of neutron scientists. The general consensus among the participants was that although there has been substantial progress, new challenges and opportunities in fundamental neutron physics continue to present themselves.

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